Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Currently amended): A device for amplifying light pulses comprising:

(a) a pulsed laser light source for producing light pulses having an optical spectrum;

(b) an optical stretcher coupled to the light pulses emitted by said laser light source for temporally stretching the light pulses of said pulsed laser light source; and

(c) an optically pumped amplifier fiber arranged to receive the light pulses from said optical stretcher for amplifying and temporally compressing the light pulses;

wherein said amplifier fiber has a positive group velocity dispersion and non-linear optical properties so that the optical spectrum of the light pulses is broadened during amplification of

the light pulses by taking advantage of non-linear self-phase modulation.

Claim 2. (Original): The device according to claim 1, wherein said optical stretcher precedes said amplifier fiber.

Claim 3. (Original): The device according to claim 2, wherein said optical stretcher comprises an optical fiber having a negative group velocity dispersion.

Claim 4. (Original): The device according to claim 1, wherein said pulsed laser light source produces fiber-coupled femtosecond light pulses having a pulse energy of up to 100 picojoules.

Claim 5. (Original): The device according to claim 1, wherein amplified light pulses from said amplifier fiber pass to an optical compressor for further temporal compression.

Claim 6. (Original): The device according to claim 1, further comprising at least one laser diode for optical pumping of said amplifier fiber.

Claim 7. (Original): The device according to claim 1, further comprising a highly non-linear optical fiber, wherein amplified light pulses are coupled into said optical fiber for generating an optical frequency comb comprising more than one optical octave.

Claim 8. (Original): The device according to claim 7, further comprising an interferometer following said highly non-linear optical fiber for characterizing the optical frequency comb.

Claim 9. (Original): The device according to claim 8, wherein an output signal from said interferometer is passed to said pulsed laser light source for active stabilization.

Claim 10. (Original): The device according to claim 9, further comprising a second optical amplifier for receiving part of the light pulses emitted by said pulsed laser light source.